

CLAIMS

1. Apparatus for moving particles entrained in a first fluid to a second fluid,
5 comprising a conduit, means providing for contacting laminar flow of each fluid
within the conduit and means capable of generating a standing sound wave having a
pressure node disposed within the conduit.
2. Apparatus according to Claim 1, in which the means providing for contacting
10 laminar flow minimise mixing between the two fluids.
3. Apparatus according to Claim 1 or Claim 2, in which the means for arranging
contacting laminar flow comprise respective inlet and outlet means for each fluid in
communication with the conduit.
- 15 4. Apparatus according to Claim 3, in which the respective inlet and outlet means
are orthogonal to each other.
5. Apparatus according to any preceding Claim, in which the pressure node is
20 centrally disposed along the longitudinal length of the conduit.
6. Apparatus according any preceding Claim, in which the means capable of
generating the standing sound wave comprise a first wall of the conduit adapted to
generate and transmit a sound wave and a second, opposite wall adapted to reflect the
25 generated sound wave.

7. Apparatus according to Claim 6, in which the first wall of the conduit comprises a piezoceramic material.
- 5 8. Apparatus according to Claim 7, in which the piezoceramic material is associated with an alternating potential source.
9. A method of moving particles from in a first fluid to a second fluid, comprising the steps of i) providing for contacting laminar flow of each fluid within a
10 conduit having means capable of generating a standing sound wave and ii) generating a standing wave having a pressure node within the conduit.
10. A method of washing particles according to Claim 9.
- 15 11. A method of mixing samples according to Claim 9.
12. Apparatus substantially as hereinbefore described with reference to and as shown in the accompanying drawings.
- 20 13. A method for washing particles substantially as hereinbefore described with reference to, and as shown in, the accompanying drawings.